

## REMARKS

### **I. General Remarks**

Please consider the application in view of the following remarks. Applicants thank the Examiner for his careful consideration of this application and the references Applicants have previously submitted.

### **II. Disposition of Claims**

Claims 1-12 are pending in this application. Claims 1-12 are subject to an election requirement. Claim 12 has been withdrawn from consideration as being directed to an unelected species. Claims 1-5, 9, and 11 have been amended herein. Claims 25-32 have been added.

In this response, Applicants have amended dependent Claim 3 to recite that the metal surface comprises at least one metal selected from the group consisting of J55 steel, N-80 steel, 13Cr alloy, 25 Cr alloy, Incoloy 825 and 316L (wherein the selected metal may be one or more than one of any of these types of metals).

In this response, Applicants have amended dependent Claim 4 to recite that the alpha,beta-unsaturated aldehyde comprises at least one aldehyde selected from the group consisting of crotonaldehyde, 2-hexenal, 2-heptenal, 2-octenal, 2-nonenal, 2-decenal, 2-undecenal, 2-dodecenal, 2,4-hexadienal, 2,4-heptadienal, 2,4-octadienal, 2,4-nonadienal, 2,4-decadienal, 2,4-undecadienal, 2,4-dodecadienal, 2,6-dodecadienal, citral, 1-formyl-[2-(2-methylvinyl)]-2-n-octylethylene, cinnamaldehyde, dicinnamaldehyde, p-hydroxycinnamaldehyde, p-methylcinnamaldehyde, p-ethylcinnamaldehyde, p-methoxycinnamaldehyde, p-dimethylaminocinnamaldehyde, p-diethylaminocinnamaldehyde, p-nitrocinnamaldehyde, o-nitrocinnamaldehyde, o-allyloxycinnamaldehyde, 4-(3-propenal)cinnamaldehyde, p-sodium sulfocinnamaldehyde, p-trimethylammoniumcinnamaldehyde sulfate, p-trimethylammoniumcinnamaldehyde o-methylsulfate, p-thiocyanocinnamaldehyde, p-(S-acetyl)thiocinnamaldehyde, p-(S-N,N-dimethylcarbamoylthio)cinnamaldehyde, p-chlorocinnamaldehyde, 5-phenyl-2,4-pentadienal, 7-phenyl-2,4,6-heptatrienal, 5-(p-methoxyphenyl)-2,4-pentadienal, 2,3-diphenylacrolein, 3,3-diphenylacrolein,  $\alpha$ -methylcinnamaldehyde,  $\beta$ -methylcinnamaldehyde,  $\alpha$ -chlorocinnamaldehyde,  $\alpha$ -bromocinnamaldehyde,  $\alpha$ -butylcinnamaldehyde,  $\alpha$ -amylcinnamaldehyde,  $\alpha$ -hexylcinnamaldehyde, 2-(p-methylbenzylidene)decanal,  $\alpha$ -bromo-p-cyanocinnamaldehyde,  $\alpha$ -

ethyl-p-methylcinnamaldehyde, p-methyl- $\alpha$ -pentylcinnamaldehyde, 3,4-dimethoxy- $\alpha$ -methylcinnamaldehyde,  $\alpha$ -[(4-methylphenyl)methylene]benzeneacetaldehyde,  $\alpha$ -(hydroxymethylene)-4-methylbenzylacetaldehyde, 4-chloro- $\alpha$ -(hydroxymethylene)benzeneacetaldehyde,  $\alpha$ -nonylidenebenzeneacetaldehyde, 3,7-dimethyl-2,6-octadienal, and beta-hydroxy aldehydes which dehydrate to form alpha,beta-unsaturated aldehydes under acidic conditions (wherein the selected aldehyde may be one or more than one of any of these types of aldehydes).

Applicants have also amended dependent Claim 4 to recite that the alpha,beta-unsaturated ketone comprises at least one ketone selected from the group consisting of 4-phenyl-3-buten-2-one, 3-methyl-1-phenyl-2-buten-1-one, 4-phenyl-3-penten-2-one, 5-phenyl-4-penten-3-one, 6-phenyl-5-hexen-4-one, 7-phenyl-6-hepten-4-one-2-ol, 7-phenyl-6-hepten-4-one, 1,3-diphenyl-2-propen-1-one, 1,3-diphenyl-2-buten-1-one, dicinnamalacetone, 1,7-bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione, mesityl oxide, phorone, isophorone, 3-methyl-2-cyclohexen-1-one, 3,6-dimethyl-2,6-cycloheptadien-1-one, 5-methyl-4-hexen-3-one, and beta-hydroxy ketones which dehydrate to form alpha,beta-unsaturated ketones under acidic conditions (wherein the selected ketone may be one or more than one of any of these types of ketones).

In this response, Applicants have amended dependent Claim 5 to recite that the said primary or secondary amine comprises at least one amine selected from the group consisting of ethanolamine, diethanolamine, partially ethoxylated dehydroabietylamine, ethylamine, diethylamine, dehydroabietylamine, propylamine, dipropylamine, propanolamine, isopropanolamine, 2-propanol-1-amine, diisopropanolamine, butylamine, dibutylamine, tert-butylamine, pentylamine, dipentylamine, and tert-benzyl-tert-butylamine (wherein the selected amines may be one or more than one of any of these types of amines).

In this response, Applicants have amended dependent claim 9 to recite that the said aqueous solution comprises water and at least one acid selected from the group consisting of hydrochloric acid, acetic acid, formic acid, and hydrofluoric acid (wherein the selected acid may be one or more than one of any of these types of acids).

These amendments are supported by the specification as filed. The claims amended herein were not amended for reasons related to patentability. Applicants respectfully request that the above amendments be entered and further request reconsideration in light of the amendments and remarks contained herein.

### III. Response to Election Requirement

In the present Office Action, the Examiner has required three species elections under 35 U.S.C. § 121. With respect to these species election requirements, the Office Action states,

This application contains claims directed to the following patentably distinct species. the applicant must elect a single species from each of the following groups:

#### Species Group A (alpha,beta-unsaturated aldehydes and ketones)

crotonaldehyde, 2-hexenal, 2-heptenal, 2-octenal; 2-nonenal, 2-decenal, 2-undecenal, 2-dodecenal, 2,4-hexadienal, 2,4-heptadienal, 2,4-octadienal, 2,4-nonadienal, 2,4-decadienal, 2,4-undecadienal, 2,4-dodecadienal, 2,6-dodecadienal, citral, 1-formyl-[2-(2-methylvinyl)]-2-n-octylethylene, cinnamaldehyde, dicinnamaldehyde, p-hydroxycinnamaldehyde, p-methylcinnamaldehyde, p-ethylcinnamaldehyde, p-methoxycinnamaldehyde, p-dimethylaminocinnamaldehyde, p-diethylaminocinnamaldehyde, p-nitrocinnamaldehyde, o-nitrocinnamaldehyde, o-allyloxycinnamaldehyde, 4-(3-propenal)cinnamaldehyde, p-sodium sulfocinnamaldehyde, p-trimethylammoniumcinnamaldehyde sulfate, p-trimethylammoniumcinnamaldehyde o-methylsulfate, p-thiocyanocinnamaldehyde, p-(S-acetyl)thiocinnamaldehyde, p-(S-N,N-dimethylcarbamoylthio)cinnamaldehyde, p-chlorocinnamaldehyde, 5-phenyl-2,4-pentadienal, 7-phenyl-2,4,6-heptatrienal, 5-(p-methoxyphenyl)-2,4-pentadienal, 2,3-diphenylacrolein, 3,3-diphenylacrolein,  $\alpha$ -methylcinnamaldehyde,  $\beta$ -methylcinnamaldehyde,  $\alpha$ -chlorocinnamaldehyde,  $\alpha$ -bromocinnamaldehyde,  $\alpha$ -butylcinnamaldehyde,  $\alpha$ -amylcinnamaldehyde,  $\alpha$ -hexylcinnamaldehyde, 2-(p-methylbenzylidene)decanal,  $\alpha$ -bromo-p-cyanocinnamaldehyde,  $\alpha$ -ethyl-p-methylcinnamaldehyde, p-methyl- $\alpha$ -pentylcinnamaldehyde, 3,4-dimethoxy- $\alpha$ -methylcinnamaldehyde,  $\alpha$ -[(4-methylphenyl)methylene]benzeneacetaldehyde,  $\alpha$ -(hydroxymethylene)-4-methylbenzylacetaldehyde, 4-chloro- $\alpha$ -(hydroxymethylene)benzeneacetaldehyde,  $\alpha$ -nonylidenebenzeneacetaldehyde, 3,7-dimethyl-2,6-octadienal, and beta-hydroxy aldehydes, 4-phenyl-3-buten-2-one, 3-methyl-1-phenyl-2-buten-1-one, 4-phenyl-3-penten-2-one, 5-phenyl-4-penten-3-one, 6-phenyl-5-hexen-4-one, 7-phenyl-6-hepten-4-one-2-ol, 7-phenyl-6-hepten-4-one, 1,3-diphenyl-2-propen-1-one, 1,3-diphenyl-2-buten-1-one, dicinnamalacetone, 1,7-bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione, mesityl oxide, phorone,

isophorone, 3-methyl-2-cyclohexen-1-one, 3,6-dimethyl-2,6-cycloheptadien-1-one, 5-methyl-4-hexen-3-one, and beta-hydroxy ketones.

Species Group B (primary or secondary amines)

ethanolamine, diethanolamine, partially ethoxylated  
dehydroabietylamine, ethylamine, diethylamine,  
dehydroabietylamine, propylamine, dipropylamine,  
propanolamine, isopropanolamine, 2-propanol-1-amine,  
diisopropanolamine, butylamine, dibutylamine, tert-butylamine,  
pentylamine, dipentylamine, and tert-benzyl-tert-butylamine.

Species Group C

i) the step of contacting said metal surfaces with said aqueous acid solution at temperatures up to about 300°F when said aqueous acid solution comprises hydrochloric acid at a concentration of about 15% by weight thereof (corresponds to claim 11).

ii) contacting said metal surfaces with said aqueous acid fluid at temperatures up to about 225°F when said aqueous acid solution comprises hydrochloric acid at a concentration of about 28% by weight thereof (corresponds to claim 12).

The species of groups A and B are independent or distinct because they are differing chemical formulas. The species of group C are independent or distinct because the claims to the different species recite the mutually exclusive characteristics of such species. In addition, the species in each of groups A, B, and C are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from each of the above groups A, B, and C for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

(Office Action at 2–7.) The Office Action also states that claim 1 is generic to each of Species Groups A, B, and C. (*Id.* at 7.) Applicants respectfully note that claim 4 is generic to the species in Species Group A, that claim 5 is generic to the species in Species Group B, and that claim 25 is generic to the species in Species Group C.

Applicants hereby elect the following, with traverse, for prosecution on the merits: Species Group A, cinnamaldehyde; Species Group B, ethanolamine; and Species Group C, the step of contacting said metal surfaces with said aqueous acid solution at temperatures up

to about 300°F when said aqueous acid solution comprises hydrochloric acid at a concentration of about 15% by weight thereof (corresponding to claim 11). In accordance with this election requirement, Applicants identify claims 1–12 and 25–32 as readable on the elected species from both Species Group A and Species Group B. Applicants further identify claims 1–11 and 25–32 as readable on the species elected from Species Group C. Applicants reserve their right to pursue additional species should a generic claim be allowed, or in a divisional or other continuing application.

Although Applicants are making the above election to be fully responsive to the election of species requirement, Applicants respectfully traverse the requirement and reserve the right to petition under 37 C.F.R. § 1.144. Applicants request reconsideration and withdrawal of the election of species requirements with respect to each of Species Groups A, B, and C for at least the following reasons. As stated by the Examiner, an election of species requirement operates as an election of certain species “for prosecution on the merits to which the claims *shall be restricted* if no generic claim is finally held to be allowable.” (Office Action at 7 (emphasis added)). However, in order for such a restriction to be proper, the Examiner “*must* explain why there would be a serious burden on the examiner if restriction is not required.” MPEP § 808.02. The Office action is devoid of any such showing of serious burden. Without this showing, a restriction, and hence the election of species, requirement is improper. For at least these reasons, Applicants request that the election of species requirement be withdrawn.

#### **IV. No Waiver**

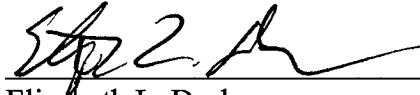
All of Applicants’ arguments and amendments are without prejudice or disclaimer. By not responding to statements made by the Examiner, Applicants do not acquiesce to the Examiner’s statements.

#### **SUMMARY**

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants believe that there are no fees due in association with this filing. However, should the Commissioner deem that any fees are due, including any fees for extensions of time, the Commissioner is authorized to debit Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.1313, for any underpayment of fees that may be due in association with this filing.

Respectfully submitted,



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Elizabeth L. Durham  
Registration No. 59,509  
BAKER BOTTS L.L.P.  
One Shell Plaza  
910 Louisiana  
Houston, TX 77002  
Telephone: 713.229.2104  
Facsimile: 713.229.7704  
Email: liz.durham@bakerbotts.com

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